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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/875,184	06/07/2001	Tadaoki Takii	010493	7678
38834 7590 01/09/2007 WESTERMAN, HATTORI, DANIELS & ADRIAN, LLP 1250 CONNECTICUT AVENUE, NW SUITE 700 WASHINGTON, DC 20036			EXAMINER GORDON, BRIAN R	
			ART UNIT 1743	PAPER NUMBER
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		01/09/2007	PAPER	

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

09/875,184

Applicant(s)

TAKII ET AL.

Examiner

Brian R. Gordon

Art Unit

1743

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 26 October 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) 2 is/are allowed.
- 6) ☒ Claim(s) 1 and 4 is/are rejected.
- 7) ☒ Claim(s) 3 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments filed October 26, 2006 have been fully considered but they are not persuasive.

In reference to the rejection claims 1 and 4, applicant argues that while the element 240 disclosed by Beinert is below the spring elements 257, 258, the element 230 is moveable between upper and lower positions. It should be noted that in when the lower position, element 230 along with element 240 is positioned below or located beneath spring elements 257 (see figure 4). Basically, the claims require two elements (guide and collar) to be located beneath the urging means. As explained above the disclosure of Beinert meets the requirement.

Alternatively, one could also look at the disclosure of Tyberg et al., specifically Figure 3C to find equivalent element of the device. While the elements are not labeled, it can be clearly seen that the spring 38 is mounted via an upper and lower support (beneath the spring). The pipette probe passes through these supports to allow the spring to provide the function of independent movement of the probe. As such the device, discloses one element beneath the spring. One of ordinary skill in the art would find it obvious to look to Beinert to further incorporate a free-floating spring configuration which includes support/ mechanism 256 above the spring 257 and what appears to be second support (unlabeled; see figure 4) below spring 257. As such it would have been obvious to provide such a support/stop below the spring to abut against the one lower

element disclosed by Tyberg to allow for the independent movement of the probe as desired.

For reasons given herein the previous rejections are hereby maintained.

***Claim Rejections - 35 USC § 103***

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
3. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tyberg et al. US 6,270,726 in view of Beinert et al., WO 00/08474.

Tyberg discloses a pipetting station having a bottom sensing device is provided in conjunction with one of any known liquid level sensing devices. The bottom sensing device includes a pipetting probe **spring** mounted to a pipetting arm of the pipetting station. The bottom sensing device also includes a sensor for determining when a pipetting tip of the pipetting probe is in contact with a bottom of a tube. The bottom sensing device permits the pipetting probe to measure an exact volume of fluid in the tube by allowing the pipetting tip (suction nozzle) to be lowered to the bottom of the tube beyond the sensed fluid level.

The pipetting station 24 (moving means) includes the pipetting arm 32 (support means) that moves in the direction of arrow 42, and a pipetting probe 34 **spring** mounted to the pipetting arm 32 of the pipetting station 24. The pipetting probe 34 includes a pipetting tip 36 having a capacitive level sensor as described with reference to U.S. Pat. No. 5,648,727. The capacitive sensor senses a level of the fluid and determines that level in relation to a known "home" position. The tube 20 is placed in a

holding device (see FIG. 4) so that a bottom of the tube 20 is at the reference line "X" which is used as a reference point for discussion purposes only.

Tyberg does not disclose a guide located beneath the urging means.

Beinert et al. disclose a freely traversable metering head with numerous metering devices, wherein the metering devices are each provided individually or block-by-block with an activating device, and wherein a controller traversable with the metering head is designed for the independent operation of one or more activating devices.

The metering head with the micropipette matrix is provided with a **guide** on the mounting block, so that, when the respective actuating element is operated, the corresponding micropipette is first moved from a retracted basic position to a projecting pipetting position relative to the mounting block before the pipetting volume changes. For the first time, a metering head is provided thereby in which, as with the projecting picking needles, micropipettes are selectively moved into the pipetting position and activated individually or simultaneously in a freely addressable manner.

The invention also relates to the combination of a micropipette that exhibits a cylinder, a pipette tip and a pipette piston, which is biased relative to the cylinder by means of a pin spring, with a carrier or mount that allows the micropipette to be moved relative to the carrier parallel to the longitudinal direction of the pipette. The cylinder of the micropipette is biased relative to the carrier with a cylinder spring. The micropipette is moved relative to the carrier between two end positions via the maximal expansion or maximal compression of the cylinder spring.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the device of Tyberg by providing a guide/mounting block as that taught by Beinert to ensure the vertical orientation of the pipette is maintained during operation.

4. Claims 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schultz et al. in view Tyberg et al. in view of Beinert et al. (as applied to claim 1 above) and further in view of Yu US 5,779,907.

Schultz et al. discloses an automated assaying system is disclosed having a multiplicity of lumens oriented and controllable in clusters. The lumens are portrayed in a matrix, wherein each row of the matrix consists of one such cluster that is individually controllable for aspiration and dispensation purposes. Also provided is a unique wash system capable of flushing the entirety of the system. A method is also depicted for accomplishing this unique assaying.

The device a hydraulic solution source 50 (buffer tank) which may contain any acceptable hydraulic solution, including water, sterile saline, solvent, or some other washing solution, a pump 12 (liquid conveying means) is thereafter connected thereto. Pump 12 is preferably of the peristaltic type, however, any fluid-type pump may be employed. From pump 12, a conduit 14 consisting of branch tubing coupled to, in this case, as depicted, two valves 16. The distribution valves 16 channel the wash fluid into a plurality of controllable cells 32. For example, as depicted, the distribution valves 16 provide output lines as arterial tubing 18 in equal numbers of six which spread to 12 of the housings 32 (manifold) via a valve 30 on each housing 32.

Syringes 52 (suction pump), of course, contain plungers 54 on plunger shafts 82. As there are eight syringes depicted in FIGS. 3 and 4, with four being to the front of the unit and four being to the rear, a plunger-pushing base 62 couples all of the syringe plunger shafts 82 together in any given unit. A motor 72, also coupled to a computer system, may specifically meter volumes via the syringes 52, either positively or negatively. That is, the plungers 54 may be pushed up to force fluid out of the system, or the plungers 54 may be drawn down to suction fluid into the system, both through probes 26 (suction nozzles).

As can be seen in FIGS. 4 through 6, the top spider ports 64 and the bottom spider ports 66 are slightly offset. This slight offset allows for the 180 degree rotation of an internal shaft 80 which acts as a valve key sleeve within an outer sleeve 78. That valve key sleeve 80, as depicted in FIGS. 5 and 6, contains, importantly, two grooves 74. While in an open position, those grooves orient with the spider ports 56. However, when those grooves 74 are rotated 180 degrees, they no longer align with the spider ports 56, but instead a solid portion of the key sleeve 80 orients with those ports, closing them off from the wash system downstream. Therefore, when in a closed position, the system is controllable only by syringes 52 via motors 72, but not by pump 12. Importantly, each motor 72 may be individually controlled. Therefore, as depicted in FIG. 1, each of the twelve syringe housings 32, containing eight syringes and output ports, are individually controllable via a motor 72.

Thereafter, the lumens 34 extending from tips 60 are arranged as ganged clusters within tubing management housing 20. Tubing management housing 20 is

preferably a flexible tract housing. Oriented with tubing management housing 20 is a swivel 48. Swivel 48 allows the upper portion of the tubing management housing 20 to slightly disorient or skew itself without binding of the lumens contained therein. That is, as tubing management housing 20 is moved about, swivel 48 allows that portion of tubing management housing 20 above swivel 48 to swivel freely so as not to foul. Tubing management housing 20 is also coupled to a three-dimensional robotic arm system (suction nozzle moving means), consisting of a vertical motion shaft 36, lateral motion couple 38 and longitudinal motion sleeve 40. The vertical motion shaft 36 is coupled at an upper portion to the management tubing 20, slightly below the swivel 48, and then at a lower portion to a U-shaped bracket 46 (support means).

Shultz discloses the employment of a buffer tank (50) that supplies acceptable hydraulic solution, including water, sterile saline, solvent, or some other washing solution.

Schultz does not teach a device that comprises nozzle moving including urging means for urging the suction nozzles toward the vessel, magnet, and a magnet moving means.

Tyberg in view of Beinert (as given above) discloses a pipetting station 24 (moving means) includes the pipetting arm 32 (support means) that moves in the direction of arrow 42, and a pipetting probe 34 **spring** (urging means) mounted to the pipetting arm 32 of the pipetting station 24. The pipetting probe 34 includes a pipetting tip 36 having a capacitive level sensor as described with reference to U.S. Pat. No. 5,648,727. The capacitive sensor senses a level of the fluid and determines that level in



relation to a known "home" position. The tube 20 is placed in a holding device (see FIG. 4) so that a bottom of the tube 20 is at the reference line "X" which is used as a reference point for discussion purposes only. As taught above it would have been obvious to modify the device of Tyberg to include a configuration of the block of Bienert which includes a guide to ensure vertical alignment of the pipette is maintained.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the device of Schultz et al. by employing the sensing system of the modified device of Tyberg in order to prevent the probes 26 of the device of Schultz from breaking in the event that the robotic system moves the probes down to far to contact the basin 28.

Yu discloses a magnetic microplate separator for use with a microplate provided with multiple wells for containing liquid under analysis, comprising a support plate, and a plurality of magnets supported on the support plate and extending upwardly into the spaces formed between the wells of the microplate from underneath the microplate.

It would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the modified device of Schultz et al. by incorporating the automated magnetic system of Yu to allow for automated process of separating unwanted particles from the fluid to be aspirated.

***Allowable Subject Matter***

5. Claim 2 is allowed.

6. Claim 3 is objected to as being incomplete and not including all the limitations as asserted by applicant (see above), but would be allowable if rewritten in independent form including all of the limitations as argued including specifying the buffer tank being located between the suction pump and branch manifold.

7. The following is a statement of reasons for the indication of allowable subject matter: The prior art of record (Yu) does not teach nor fairly suggest the specific magnetic moving means comprising a spring interposed between two support plates as claimed in combination with the other elements of claim 2.

### ***Conclusion***

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian R. Gordon whose telephone number is 571-272-1258. The examiner can normally be reached on M-F, with 2nd and 4th F off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill Warden can be reached on 571-272-1267. The fax phone numbers for the organization where this application or proceeding is assigned are (571) 273-8300 for regular communications and (571) 273-8300 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-1700.

brg  
January 5, 2007

A handwritten signature in black ink, appearing to read 'BRG', with a long horizontal flourish extending to the right.

BRIAN R. GORDON  
PRIMARY EXAMINER